

TECHNICAL EXHIBIT  
IN SUPPORT OF MODIFICATION TO THE  
CONSTRUCTION PERMIT FOR STATION WKTB-CA (FACILITY ID 35418)  
NORCROSS, GEORGIA

SEPTEMBER 16, 2010

CH 47 12.5 KW (MAX-DA)

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Technical Narrative

This technical statement was prepared in support of an application to modify the digital authorization for Class A television station WKTB-CA at Norcross, Georgia. Station WKTB is licensed for analog operation on channel 38, but holds a granted construction permit to displace to digital operation on channel 47, with a directional antenna maximum effective radiated power (ERP) of 15 kilowatts (kW) (DA) and an antenna radiation center height above mean sea level (RCAMSL) of 431.2 meters.<sup>1</sup>

The applicant purchased an AND/ERI, model ALP16L2-HSOC-47 (16-bay) directional antenna similar to that authorized (both have the same “omnioid” horizontal pattern shape). However, it was determined after the fact that the currently leased space on the tower was not adequate to accommodate this antenna. Thus, the applicant modified the 16-bay antenna to a physically shorter “12-bay” version to allow it to fit within the available space on the tower. This new shorter antenna resulted in a reduction in gain as well as a higher center of radiation more than +2 meters. The 1 kW transmitter that WKTB intended to use was no longer able to achieve the authorized 15 kW ERP due to the lower antenna gain. Therefore, this application is being filed to (1) reduce the proposed directional ERP, (2) increase the antenna RCAMSL and (3) slightly modify the antenna relative field pattern to reflect the new antenna model.

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<sup>1</sup> See BDISDTA-20090414AGF

While the FCC's OET Bulletin No.69 interference program indicates a small amount of interference to replacement translator station WSB-LD (BDRTCT-20090320AFV), this modification, herein, will not cause any additional calculated interference to WSB-LD than the currently authorized digital WKTG-CA channel 47 facility.

### Proposed Facilities

This application proposes digital operation on channel 47, at the current transmitter site, using a new directional antenna. The antenna structure registration number is 1018919 (see Figure 1). An AND/ERI, model ALP12L2-HSOC-47, "omnioid" directional antenna will be installed with the radiation center at the 102.4 meter (336 foot) level on the existing tower. This "off-the-shelf" antenna is specifically described in the FCC's antenna database with make: "AND", model: "ALP12L2-HSOC". The proposed ERP is 12.5 kW and the antenna RCAMSL will be 434.6 meters.

Figure 2 is a map showing the authorized and proposed 51 dBu coverage contours. As can be seen on the map, there is common area where both contours overlap, and there is no enlargement of the contour along any azimuth.

### Allocation Considerations

A study has been conducted to assure that the proposal will not create prohibited interference with other licensed, authorized or pending digital TV or analog or digital LPTV/translator/Class A stations. Using the procedures outlined in the FCC's OET-69 Bulletin, a **non-standard 1 kilometer grid and 0.2 kilometer terrain distance increment**, and 2000 U.S. Census, the proposal complies with the current FCC policy to other pertinent assignments, with the exception of replacement translator WSB-LD at Gainesville, Georgia (BDRTCT-20090320AFV).

Interference studies based on the procedures outlined in FCC OET Bulletin No.69 (using a non-standard 1 kilometer grid and 0.2 kilometer terrain distance increment and 2000 Census) indicate that the proposed WKTB-CA modification will cause new interference in the amount of 2.1% of the WSB-LD service population. This exceeds the 2.0% limit and “fails” the OET-69 program. However, when compared to the current granted WKTB-DC channel 47 construction permit that is being modified herein, the OET-69 interference program (with the same input settings) indicates that it will NOT cause any new interference to the WSB-LD operation. Figure 3 is a summary of the before and after OET-69 interference results. The summary includes only information pertaining to WSB-LD. There are no other prohibited interference issues to other stations from the WKTB-CA proposal.

#### Radiofrequency Electromagnetic Field Exposure

The licensed FM facility was evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. Based on a conservative downward relative field value of 0.3, the calculated power density at a point 2 meters above ground level will not exceed  $0.004 \text{ mW/cm}^2$ , which is less than 1% of the FCC's recommended limit of  $0.45 \text{ mW/cm}^2$  for channel 47, applicable to general population/uncontrolled exposure areas.

Access to the transmitting site tower is restricted and appropriately marked with warning signs. As this is a multi-user site, an agreement between the users will control site access. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down. The licensed operation appears to be otherwise categorically excluded from environmental processing.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner as part of the tower registration process (ASRN:1018919).



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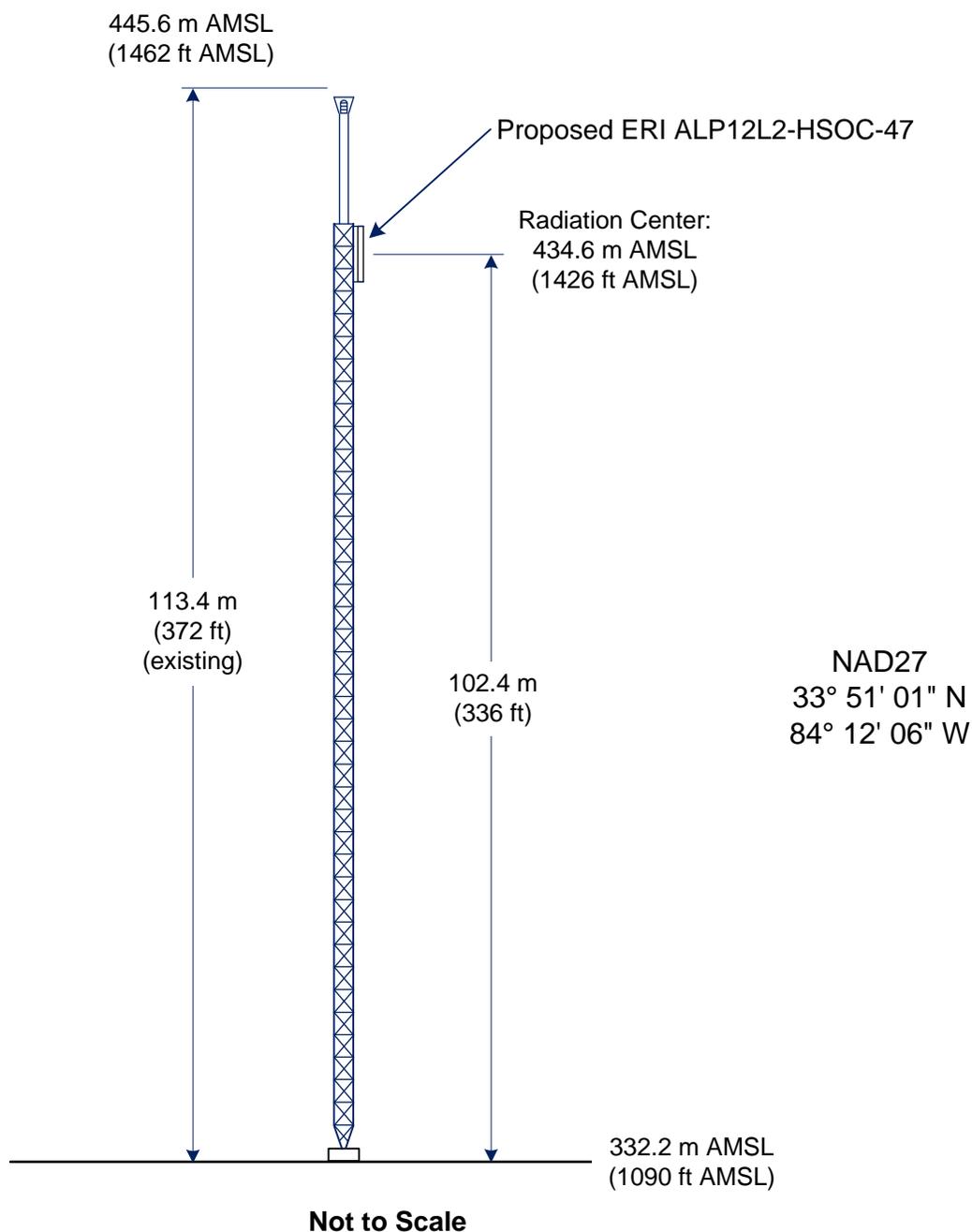
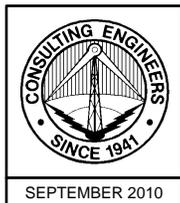
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September 16, 2010

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WKTB-CA RF Transmission System Specifications

Description	System
Transmitter Power Output (0.95 kW):	-0.22 dBk
Transmission Line Loss - 382 feet of 1-5/8" (61% efficient):	2.13 dB
ERI ALP12L2-HSOC-47 Antenna (21.5 Power Gain):	13.32 dB
Effective Radiated Power (12.5 kW):	10.97 dBk



**PROPOSED ANTENNA AND EXISTING SUPPORTING STRUCTURE**

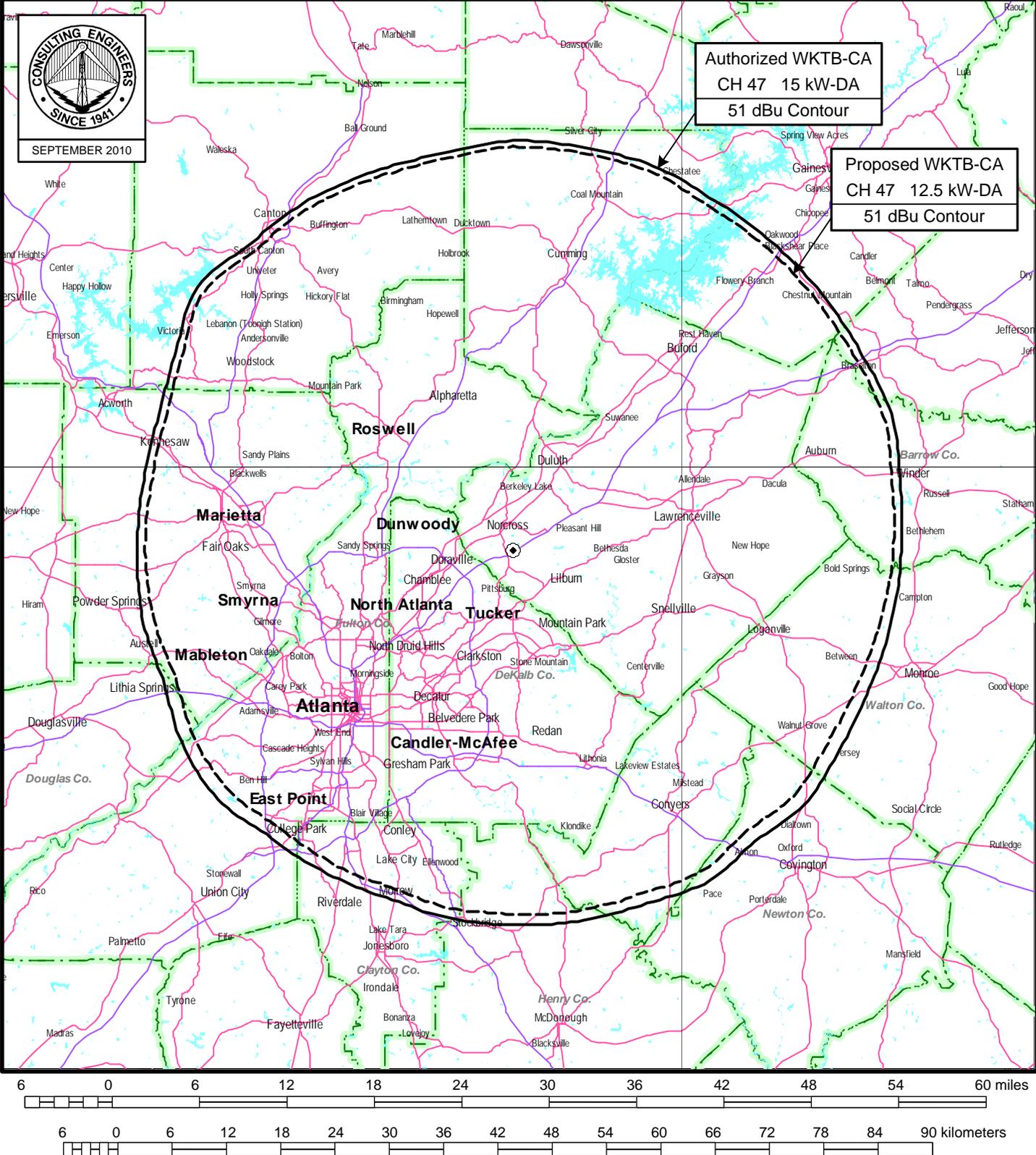
STATION WKTB-CA

NORCROSS, GEORGIA

CH 47 12.5 KW (MAX-DA)

du Treil, Lundin & Rackley, Inc Sarasota, Florida

Figure 2



**PREDICTED COVERAGE CONTOURS**

STATION WKTB-CA

NORCROSS, GEORGIA

CH 47 12.5 kW (MAX-DA)

du Treil, Lundin & Rackley, Inc Sarasota, Florida

OET-69 INTERFERENCE ANALYSIS SUMMARY WITH RESPECT TO WSB-LD

Percent allowed new interference: 0.500  
 Percent allowed new interference to non Class A LPTV: 2.000  
 TW Census data selected 2000  
 Data Base Selected  
 /export/home/cdbs/pt\_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 09-16-2010 Time: 16:55:25  
 Record Selected for Analysis

WKTB-CA USERRECORD-01 NORCROSS XX US  
 Channel 47 ERP 12.5 kW HAAT 141. m RCAMSL 00435 m STRINGENT MASK  
 Latitude 033-55-01 Longitude 0084-12-06  
 Status APP Zone 2 Border Site number: 01  
 Dir Antenna Make CDB Model 00000000016374 Beam tilt N Ref Azimuth 0.  
 Last update Cutoff date Docket  
 Comments  
 Applicant

Cell Size for Service Analysis 1.0 km/side  
 Distance Increments for Longley-Rice Analysis 0.20 km

Facility (site # 01) meets maximum height/power limits

Site number	1			
Azimuth	ERP	HAAT	51.0 dBu F(50,90)	
(Deg)	(kW)	(m)	(km)	
0.0	12.500	135.0	44.8	
45.0	9.968	133.3	43.5	
90.0	5.578	154.9	42.0	
135.0	4.736	154.6	41.1	
180.0	5.712	122.9	39.9	
225.0	4.736	146.8	40.6	
270.0	5.578	133.2	40.5	
315.0	9.968	147.9	44.5	

Contour Overlap to Proposed Station

Station  
 WDGA-CA 47 DALTON GA BDISDTA20090819AGT causes

Contour overlap to Digital LPTV station  
 WKTB-CA 47 NORCROSS XX USERRECORD01

Station  
 WKTB-CA 47 NORCROSS GA BSTA20090615AFX

Station inside contour of Digital LPTV station  
 WKTB-CA 47 NORCROSS XX USERRECORD01

Station  
 WKTB-CA 47 NORCROSS GA BDISDTA20090414AGF

Station inside contour of Digital LPTV station  
WKTB-CA 47 NORCROSS XX USERRECORD01

Station  
WUVG-DT 48 ATHENS GA BLCDT20030805AJO

Station inside contour of Digital LPTV station  
WKTB-CA 47 NORCROSS XX USERRECORD01

Contour Overlap Evaluation to Proposed Station Complete

Checks to Site Number 01

Proposed facility OK to FCC Monitoring Stations  
Proposed facility OK toward West Virginia quiet zone  
Proposed facility OK toward Table Mountain  
Proposed facility is beyond the Canadian coordination distance  
Proposed facility is beyond the Mexican coordination distance  
Proposed station is OK toward AM broadcast stations

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Start of Interference Analysis

	Proposed Station			
Channel	Call	City/State	ARN	
47	WKTB-CA	NORCROSS XX	USERRECORD01	

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
32	WANN-CA	ATLANTA GA	23.5	LIC	BLTTL	-19991214ABG
32	WANN-CA	ATLANTA GA	17.6	CP	BPTTA	-20091130APP
32	WDMA-CA	MACON GA	129.2	LIC	BLTTL	-19970818JA
33	WCAG-LP	LA GRANGE GA	123.2	LIC	BLTTL	-19891128JR
43	WDGA-CA	DALTON GA	117.9	LIC	BLTTL	-19910211IF
45	WYGA-CA	ATLANTA GA	24.1	APP	BSTA	-20080908AAR
45	WYGA-CA	ATLANTA GA	24.1	APP	BPTTA	-20040107AMV
46	W46EM-D	ATHENS GA	122.3	CP	BNPDTL	-20090825AJM
46	W46EK-D	AUGUSTA GA	197.8	CP	BNPDTL	-20090825ADI
46	WSB-TV	GAINESVILLE GA	39.2	CP	BDRTCT	-20090320AFV
46	WNNG-LD	WARNER ROBINS GA	142.8	CP	BNPDTL	-20090825ADP
46	W46AX-D	BRYSON CITY NC	178.2	LIC	BLDTT	-20090615AAU
47	W49AY	BIRMINGHAM AL	245.9	APP	BSTA	-20051101ABI
47	W62CK	BIRMINGHAM AL	250.3	APP	BPTTL	-20020725AAX
47	W49AY	BIRMINGHAM AL	245.9	CP	BDISTTA	-20080804AEH
47	W47DK	ENTERPRISE AL	327.2	CP	BNPTTL	-20000828ANW
47	W46CF	MOULTON AL	288.1	APP	BDISTTTL	-20060324AAB
47	WOIL-LP	TALLADEGA AL	193.9	LIC	BLTTL	-19950531IR
47	NEW	JENNINGS FL	383.0	APP	BNPDTL	-20100510ACE
47	W47DR-D	MARIANNA FL	365.4	CP	BNPDTL	-20090825AXB
47	WWWF-LP	TALLAHASSEE FL	380.7	APP	BSTA	-20090902ACD
47	WWWF-LP	TALLAHASSEE FL	380.7	APP	BSTA	-20070718AEY
47	WWWF-LP	TALLAHASSEE FL	380.7	LIC	BLTTL	-20010711AAK
47	NEW	ATHENS GA	122.3	APP	BNPDTL	-20090825AJH
47	W47BX	COLQUITT GA	301.6	LIC	BLTTL	-20001219AAD
47	NEW	COLUMBUS GA	172.5	APP	BNPDTL	-20100423ACK



Result key: 1  
Scenario 1 Affected station 10  
Before Analysis

Results for: 46A GA GAINESVILLE BDRTCT 20090320AFV CP  
HAAT 320.0 m, ATV ERP 5.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	914016	5006.9
not affected by terrain losses	911213	4986.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	74958	129.9
lost to ATV IX only	74958	129.9
lost to all IX	74958	129.9

Potential Interfering Stations Included in above Scenario 1

46A AL HUNTSVILLE	BPCDT	20090313ABX	CP
46A AL MONTGOMERY	BMPCDT	20090323ADG	CP
46A GA ATHENS	BNPDTL	20090825AJM	CP
46A GA WARNER ROBINS	BNPDTL	20090825ADP	CP
<b>47A GA NORCROSS</b>	<b>BDISDTA</b>	<b>20090414AGF</b>	<b>CP</b>

After Analysis

Results for: 46A GA GAINESVILLE BDRTCT 20090320AFV CP  
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46A AL MONTGOMERY	BMPCDT	20090323ADG	CP
46A GA ATHENS	BNPDTL	20090825AJM	CP
46A GA WARNER ROBINS	BNPDTL	20090825ADP	CP
47A GA NORCROSS	BDISDTA	20090414AGF	CP
<b>47A XX NORCROSS</b>	<b>USERRECORD01</b>		<b>APP</b>

Percent new IX = 0.0000%

**Worst case new IX 0.0000% Scenario 1**

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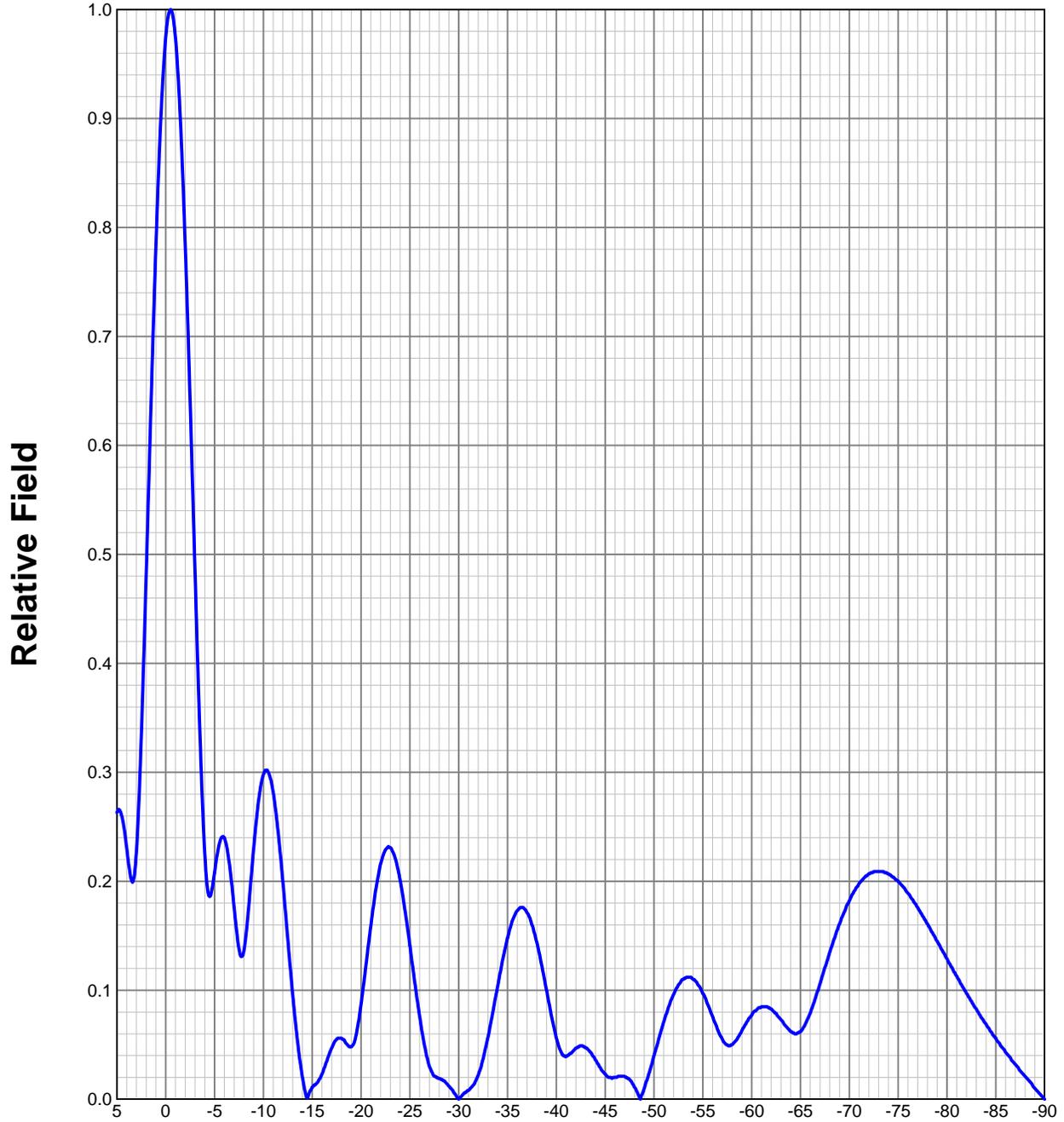


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*\*Note-For purposes of this study the digital companion channel records for WKTB-LD as well as digital STA, all on channel 47 were removed: 20080828ABJ, 20090402AOZ, 20090615AFX. This was done so that the proposal could be compared directly to the current granted WKTB-CA channel 47 construction permit being modified by this application.*

### ELEVATION PATTERN

Type:	ALP12L2		Channel:	47
Directivity:	Numeric	dBd	Location:	
Main Lobe:	12.64	11.02	Beam Tilt:	-0.50
Horizontal:	12.02	10.80	Polarization:	Horizontal



Preliminary, subject to final design and review.